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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,242	04/14/2004	David H. Hanes	200309081-1	6424
22879 7590 07/26/2010 HEWLETT-PACKARD COMPANY Intellectual Property Administration 3404 E. Harmony Road Mail Stop 35 FORT COLLINS, CO 80528			EXAMINER BRUCKART, BENJAMIN R	
			ART UNIT 2446	PAPER NUMBER
			NOTIFICATION DATE 07/26/2010	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/824,242

**Applicant(s)**

HANES, DAVID H.

**Examiner**

BENJAMIN R. BRUCKART

**Art Unit**

2446

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 July 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 2, 4-25, 27-36, 38, 40-43 and 45-48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-25, 27-36, 38, 40-43 and 45-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Claims 1-2, 4-14, 16-25, 27-36, 38, 40-43, 45-48 are presented for examination.

Claims 1, 13, 24, 33, 38 and 43 are independent.

Claims 3, 15, 26, 37, 39, 44 are cancelled.

The 35 U.S.C. 101 rejection is withdrawn in light of applicant's amendments.

### **Response to Arguments**

Applicant's response filed on 7/7/10 has been fully considered but is not persuasive. See the remarks below.

#### **Applicant's invention as claimed:**

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-2, 4-14, 16-23, 33-36, 43, 45-48 are rejected under 35 U.S.C. 103(a) as being unpatentable Heil et al. (USPN 6,173,374) (hereinafter Heil) in view of by Miyoshi et al. (USPN 6,901,451) (hereinafter Miyoshi).**

Referring to claim 1, Heil discloses an I/O request processing system (i.e. nodes 150), comprising:

a drive command module adapted to receive an I/O request from a client application (i.e. host's upper layers, which contain the software needed to operate the host system) referencing a data block request for processing said I/O request (i.e. I/O redirector software 240) (Figure 2; Figure 3, ref. 400; col. 10, lines 50-65; col. 11, lines 45-52); and

a redirector adapted to automatically and transparently convey the I/O request over a communication network 121 to a remote peripheral device 151 for processing of the I/O request (i.e. the I/O redirector software calls the I/O ship ISM in order to ship request to remote HBA, the host's upper layers 200,300 have no knowledge of the redirection, it merely waits for the request to be fulfilled by the I/O driver) (Figure 3, ref. 450; col. 11, line 45 to col. 12, line 7).

Heil does not explicitly disclose the request referencing a local peripheral address of a peripheral device to execute the I/O request.

In analogous art, Miyoshi discloses another I/O request translation system which receives an I/O request of a local peripheral device (i.e. PCI request references a local PCI address space which is then mapped to a plurality of remote peripheral devices represented by the remote PCI address space) at a module which references a local peripheral address to execute the I/O request (Figure 5; col. 12, lines 25-37; col. 4, lines 30-67),

the redirector is adapted to replace the local peripheral address with an address of the remote peripheral device (i.e. translate the local address space to an address of the remote device) (Miyoshi: Figure 10a, ref. 1003; col. 4, lines 31-36).

It would have been obvious to one of ordinary skill in the art to combine the teaching of Miyoshi with Heil by substituting the block directory subsystem of Heil with the address/node ID translator 309 of Miyoshi in order for the users of Heil to realize the benefits of Miyoshi, specifically the ability to transfer local PCI bus transactions from a local node of a PCI bus to a PCI bus on a remote node over a network (Miyoshi: col. 1, lines 55-57).

Referring to claim 2, Heil-Miyoshi discloses the redirector is adapted to correlate the local peripheral address space with an address of the remote peripheral device (i.e. translate local address space to address of remote device) (Miyoshi: Figures 3 and 10a).

Referring to claim 4, Heil-Miyoshi discloses the drive command module calls a bus driver (i.e. I/O shipping ISM 270) to invoke the redirector (i.e. I/O ISM 270 formats the request and sends the request out to the network) (Heil: col. 11, lines 35-45).

Referring to claim 5, Heil-Miyoshi discloses a network server (i.e. remote network PCI adapter 419) adapted to receive the I/O request from the communications network and execute a command (i.e. various PCI commands such as read/write) to process the I/O request via the remote peripheral device (i.e. device 415A-B) (Miyoshi: Figure 4; col. 9, line 57 to col. 10, line 24).

Referring to claim 6, Heil-Miyoshi discloses the I/O request includes a field identifying the local peripheral address (Miyoshi: Figure 5; Figure 6, refs. 615, 620).

Referring to claim 7, Heil-Miyoshi discloses a relational database (i.e. node ID table) to correlate local peripheral address with an address of a remote peripheral device (Miyoshi: Figure 7a, ref. 703; col. 10, lines 50-64).

Referring to claim 8, Heil-Miyoshi discloses formatting a drive command issued by the drive command module for delivery over the communications network to the remote peripheral device (i.e. I/O ISM formats the request into a format to be transmitted over the network) (Heil: col. 11, lines 35-45).

Referring to claim 9, Heil-Miyoshi discloses the redirector inserting an address associated with the remote peripheral device into the drive command (Heil: col. 11, lines 35-55; Miyoshi: col. 10, lines 50-64).

Referring to claim 10, Heil-Miyoshi discloses the network server receives the I/O request from the network and extracts an address associated with the remote peripheral device (i.e. translation of a destination address from a base address and address offset of a local I/O request) (Miyoshi: col. 10, line 65 to col. 11, line 14).

Referring to claim 11, Heil-Miyoshi discloses the local peripheral address corresponding to a local peripheral address of a host device of a drive command module (i.e. the local address references an address which corresponds to an address space indicating that the request is a remote address request) (Miyoshi: Figure 5).

Referring to claim 12, Heil-Miyoshi discloses the redirector is disposed on the host device (i.e. I/O ISM software is on the node) (Heil: col. 11, lines 35-45).

Claims 13-23 recite essentially the same limitations of claims 1-12 in method form and are rejected for similar reasons as stated above.

Claims 33-37 recite essentially the same limitations of claims 1-12 in means-plus function language and are therefore rejected for similar reasons as stated above.

Claims 43-48 recite essentially the same limitations of claims 1-12 in a computer-readable medium and are therefore rejected for similar reasons as stated above.

**Claims 24-25, 27-32, and 38, 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heil-Miyoshi in view of Hewitt (USPN 5,987,541).**

Referring to claim 24, Heil-Miyoshi disclose the invention substantively as described in claims 1-12.

Heil-Miyoshi do not explicitly disclose that the I/O request is to record data to an optical medium, however Miyoshi does disclose that the I/O request can be a write request (see rejections above).

In analogous art, Hewitt discloses another computer system which discloses an optical drive (i.e. CD-ROM drive 132) on a PCI bus 120 (Figure 1).

It would have been obvious to one of ordinary skill in the art to combine the teachings of Heil-Miyoshi to substitute the remote device on the PCI bus 201c-c of Miyoshi with the CD-

ROM drive of Hewitt in order to provide the benefits of Hewitt to Heil-Miyoshi, specifically the ability to communicate with an optical drive via a well known bus protocol such as PCI.

Claims 25-32 and 38-42 are rejected for similar reasons as stated above.

### **REMARKS**

Applicant amended to fix the 101 and presented repeated arguments with the response.

#### **The Applicant Argues:**

On page 10 of the remarks, applicant argues the references do not teach "receive an I/O request from a client application referencing a local peripheral address and redirect the I/O request automatically and transparent to the client application over the communication network to a remote peripheral device for processing of the I/O request with an address associated with the remote peripheral device."

And in independent claim 33, "insert an address associated with the remote peripheral device into a drive command issued by the receiving means."

**In response**, the examiner respectfully submits:

The prior art teaches the invention as claimed and therefore the examiner maintains the rejection.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

With respect to the Heil reference, Heil is cited and is produced to show processing I/O requests from a client application (see: col. 10, lines 50-65) referencing a data block with the I/O request. Heil shows Node 150 contains layers to interface and management communication between the host and the HBA's software. Col. 11, lines 45-53 illustrate the HBAs retrieve data corresponding to an I/O request for stored data blocks. Heil further teaches a redirector to

automatically and transparently convey the I/O request over the network to a remote peripheral device (other HBA device Node 151) for processing of the I/O request. Col. 11, lines 54-65 illustrate a the request is to a remote block of data that request a connection over the network.

On page 10 of the remarks, applicant argues because Heil establishes communications before shipping the I/O block request that is it somehow not automatically performed and not transparent to the client. The examiner sees no evidence that the transfer of the block is not automated or requires the client's intervention in the process. The steps are performed transparently and seamlessly and is consistent with applicant's specification para 16.

This is performed automatically and transparent to the client because all of the redirectors functions are performed internally so the client does not to be aware of the redirector's accessing another device. This is consistent with appellant's specification para 16. The request process is the same (as seen from the higher host layers) for local requests as they are for remote requests. By this rationale, the redirection is completely transparent to the client application and therefore the rejection is maintained. It is automatically performed because it does not require intervention by the requesting application. The redirector performs the steps.

Appellant's argument that Heil does not teach the client application referencing a local peripheral address is correct. This is mentioned in the lacking state of the combination, "Heil does not explicitly disclose the request referencing a local peripheral address of a peripheral device to execute the I/O request."

In analogous art, Miyoshi discloses an I/O request translation system which receives an I/O request of a local peripheral device (i.e. PCI request references a local PCI address space which is then mapped to a plurality of remote peripheral devices represented by the remote PCI address space) at a module which references a local peripheral address to execute the I/O request (Figure 5; col. 12, lines 25-37; col. 4, lines 30-67). Miyoshi's peripheral device receives a request and can perform destination address and destination node ID translation. Miyoshi also teaches a redirector is adapted to replace the local peripheral address with an address of the remote peripheral device (i.e. translate the local address space to an address of the remote device) (Miyoshi: Figure 10a, ref. 1003; col. 4, lines 31-36).



On page 11, applicant argues the Miyoshi teaches transferring a communication path transaction from a local node of a communication path to a communication on a remote node over a network. Applicant is taking a narrow interpretation and not considering the combination as a whole, or the cited portions teaching the features cited above.

Regarding claims 24-25, 27-3, 38, and 40-42, appellant argues the combination does not teach the limitation of 'receiving a drive command from a client application to record data to an optical medium and formatting the drive command to record data to an optical medium and formatting the drive. Many of these features are argued above and rely on Heil and Miyoshi to teach the formatting and translating of data in an I/O request. The Hewitt reference is relied upon to teach you can perform requests to input/output to an optical drive on a bus similar to Miyoshi. Further, the optical drive can also constitute a peripheral device in which the requests to access and write to are directed.

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin R. Bruckart whose telephone number is (571) 272-3982. The examiner can normally be reached on 9:00-5:30PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeff Pwu can be reached on (571) 272-6798. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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